

Garrison Mobile Equipment (GME)- Alternative Fueled Vehicle (AFV)

To meet the key Executive Order (EO) and Energy Policy Act (EPA) objectives of 1992, the Marine Corps developed a strategy for Alternative Fueled Vehicles (AFVs), which operate on non-petroleum based fuels. For example, there are vehicles dedicated to using only compressed natural gas (CNG), CNG or gasoline/bi-fuel (CNG2), and flex-fuel E-85 (85 percent ethanol, 15 percent gasoline) or gasoline.

Of the 8,600-plus light-duty vehicles in the Marine Corps' GME fleet, more than 1,900 are AFVs. AFVs have an "incremental cost" structure, where the vehicle can be built in the alternative-fuel version for an additional cost. Depending on the type of vehicle, incremental costs can range from \$1,200 to \$30,000.

The Marine Corps spends more than \$1 million annually on incremental costs. EPA of 1992 requires that 75 percent of all federal fleet replacement of light duty vehicles (in the defined metropolitan areas) be AFVs. The Marine Corps is committed to AFVs and the fuels that power them. The Marine Corps exceeded its EPA federal fleet requirements in 2003 and 2004 by

a compliance of 102 percent and 243 percent, respectively.

The Marine Corps also exceeded the 20 percent fuel reduction requirements of the EO three years ahead of the 2005 deadline. The Marine Corps has reduced its fuel consumption by 27.1 percent in 2003 and 27.5 percent in 2004. The significant accomplishments achieved in the AFV program were key for the Marine Corps receiving the Department of Energy's Federal Energy and Water Management Leadership Award in 2003. In 2005, the Marine Corps was recognized with the "Closing the Circle" award for petroleum reduction.

As a forward-thinking force in readiness, the Marine Corps has introduced hybrid vehicles into its recruiting fleet and will introduce fuel-cell vehicles in the near future. While the hybrid vehicles use a combination of electric motors and gasoline engines to achieve efficient operation, fuel-cell vehicles use hydrogen to create electricity. As there is no combustion, the byproduct of this process is water. The electricity that is created drives the electric motor that, in turn, drives the vehicle.